Work Order ID 119749

Wednesday, May 21, 2014 1:35:47 PM

119749

Item ID: D4943-1 **Accept** *N900040100* **Setup Start** *NS1*

Revision ID: **Stop** *NS2*

Item Name: EAPS Flex Hose w/ 90° Connection

Start Date: 5/27/2014 **Start Qty:** 5.00 *5*

Required Date: 5/27/2014 **Req'd Qty:** 5.00 *5*

Reference:

Cust Item ID:

Customer:

Approvals: **Process Plan:** CL **Date:** 14/05/21 **Tooling:** _____ **Date:** _____

QC: _____ **Date:** _____ **SPC (Y/N):** _____ **Date:** _____

Run Start *NR1*

Stop *NR2*

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
Draw Nbr	**Revision Nbr**								
D4943	B								
100		0.00							
100									
Purchasing		0.00							
Purchasing	**Memo**								

Issue P/O: 23323

Purchuse part #: 12EAS12S-03900F

Possible supplier: AERO-FLEX

Certificate of comformity is requirered

CL 14/05/21 5

110	Receive & Inspect for Damage & Mat'l Certs	0.00							
110									
Packaging		0.00							
Packaging	**Memo**								

Certificate of comformity is requirered.

14/06/22 5

DQA: _____ Date: _____

WORK ORDER NON-CONFORMANCE / UPDATE

DART AEROSPACE

QA Closed: Date: Work Order update only ☐

Work Order: _____

Part No. _____

NCR No. _____

DISPOSITION

Rework ☐
Scrap ☐
Use-as-is ☐
Suspected Unapproved ☐

AGAINST DEPARTMENT/PROCESS

Skid-tube ☐ Crosstube ☐ Water Jet ☐ Engineering ☐
Machining ☐ Small Fab ☐ Prod. Eng. Coor. ☐ Quality ☐
Thermoforming ☐ Finishing ☐ Rec/Store/Packaging ☐ Other ☐
Large Fab ☐ Composite ☐ Supplier ☐

Root Cause		Date	Step	Qty	Description of work order update or non-conformance	Initial Chief Eng	Action Description	Sign & Date	Verification	QC Inspector
Design	☐									
Doc/Data	☐									
Equip/Tooling	☐									
Handling/Pre	☐									
Material	☐									
Operator	☐									
Offset/Setup	☐									
Process	☐									
Supplier	☐									
Training	☐									
Transport	☐									
Unapproved	☐									

FAULT CATEGORY

Landing Gear

☐ Bending
☐ Centre Not Concentric
☐ Cracks
☐ Crimp/Kink/Ripple/Wave
☐ Cuffs
☐ Crushing
☐ Heat Treat
☐ Inspection Strip in Tube
☐ Marks/Chatter
☐ Turning Sequence
☐ Wave/Twist in Tube

General

☐ Bend
☐ BOM/Route
☐ Broken/Damage/Defect
☐ Burrs
☐ Contamination
☐ Countersink
☐ Cut Too Short
☐ Drawing
☐ Drill Holes
☐ Finish
☐ Fit/Function

☐ Folio/Program
☐ Grain
☐ Hardware
☐ Inspection Incomplete/Unqualified
☐ Instructions Incomplete/Unclear
☐ Misaligned/off center
☐ Mislabeled
☐ Misread
☐ Off-set
☐ Out of Calibration
☐ Out of Sequence

☐ Outside Dimensions
☐ Over/Under tolerance
☐ Part Incorrect
☐ Part Lost/Missing
☐ Part Moved
☐ Positioned Wrong
☐ Power Loss/Surge

☐ Pressure/Forced
☐ Set-up
☐ Temperature/Cure
☐ Weld
☐ Wrong Stock Pulled

☐ Other

Item ID: D4943-1 **Accept** *N9000040100* **Setup Start** *NS1*
Revision ID: **Stop** *NS2*
Item Name: EAPS Flex Hose w/ 90° Connection
Start Date: 5/27/2014 **Start Qty:** 5.00 *5*
Required Date: 5/27/2014 **Req'd Qty:** 5.00 *5*
Reference:
Cust Item ID:
Customer:

Approvals: **Process Plan:** _____ **Date:** _____ **Tooling:** _____ **Date:** _____
QC: _____ **Date:** _____ **SPC (Y/N):** _____ **Date:** _____

Run Start *NR1*
Stop *NR2*

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
120	QC6- Inspect dimensions to drawing	0.00				5			
120		27 9-89							
QC	**Memo**	0.00 14/5/22							
Quality Control									
130	Identify as per dwg & Stock Location: ST163	0.00							
130						5X	DAS 28 9-89	MAY 22 2014	
Packaging	**Memo**	0.00							
Packaging									
140	QC21- Final Inspection - Work Order Release	0.00							
140						MLJ	14-05-26		
QC	**Memo**	0.00							
Quality Control									

MLJ 14-05-23

DQA: _____ Date: _____

WORK ORDER NON-CONFORMANCE / UPDATE

DART AEROSPACE

QA Closed: Date: Work Order update only ☐

Work Order: _____

Part No. _____

NCR No. _____

DISPOSITION

Rework ☐
Scrap ☐
Use-as-is ☐
Suspected Unapproved ☐

AGAINST DEPARTMENT/PROCESS

Skid-tube ☐ Crosstube ☐ Water Jet ☐ Engineering ☐
Machining ☐ Small Fab ☐ Prod. Eng. Coor. ☐ Quality ☐
Thermoforming ☐ Finishing ☐ Rec/Store/Packaging ☐ Other ☐
Large Fab ☐ Composite ☐ Supplier ☐

Root Cause		Date	Step	Qty	Description of work order update or non-conformance	Initial Chief Eng	Action Description	Sign & Date	Verification	QC Inspector
Design	☐									
Doc/Data	☐									
Equip/Tooling	☐									
Handling/Pre	☐									
Material	☐									
Operator	☐									
Offset/Setup	☐									
Process	☐									
Supplier	☐									
Training	☐									
Transport	☐									
Unapproved	☐									

FAULT CATEGORY

Landing Gear

☐ Bending
☐ Centre Not Concentric
☐ Cracks
☐ Crimp/Kink/Ripple/Wave
☐ Cuffs
☐ Crushing
☐ Heat Treat
☐ Inspection Strip in Tube
☐ Marks/Chatter
☐ Turning Sequence
☐ Wave/Twist in Tube

General

☐ Bend
☐ BOM/Route
☐ Broken/Damage/Defect
☐ Burrs
☐ Contamination
☐ Countersink
☐ Cut Too Short
☐ Drawing
☐ Drill Holes
☐ Finish
☐ Fit/Function

☐ Folio/Program
☐ Grain
☐ Hardware
☐ Inspection Incomplete/Unqualified
☐ Instructions Incomplete/Unclear
☐ Misaligned/off center
☐ Mislabeled
☐ Misread
☐ Off-set
☐ Out of Calibration
☐ Out of Sequence

☐ Outside Dimensions
☐ Over/Under tolerance
☐ Part Incorrect
☐ Part Lost/Missing
☐ Part Moved
☐ Positioned Wrong
☐ Power Loss/Surge

☐ Pressure/Forced
☐ Set-up
☐ Temperature/Cure
☐ Weld
☐ Wrong Stock Pulled

☐ Other

Picklist Print

Wednesday, May 21, 2014 1:35:47 PM

Work Order ID: 119749

119749

Parent Item: D4943-1

D4943-1

Parent Item Name: EAPS Flex Hose w/ 90° Connection

Start Date: 5/27/2014 **Required Date:** 5/27/2014

Start Qty: 5.00 **Required Qty:** 5.00

Comments: IPP REV.A NEW ISSUE JFS 13/09/19 VERIFY BY: DD IPP REV.B 14.05.05 AS PER DWG REV.B DD VERIFY BY:JLM

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
12EAS1S2-03900F		Purchased	No				Each	0.0000		5			
12EAS1S2-03900F									**				
FLEX HOSE													

5/4/0/22 (5)

DQA: _____ Date: _____

WORK ORDER NON-CONFORMANCE / UPDATE

DART AEROSPACE

QA Closed: Date: Work Order update only ☐

Work Order: _____

Part No. _____

NCR No. _____

DISPOSITION

Rework ☐
Scrap ☐
Use-as-is ☐
Suspected Unapproved ☐

AGAINST DEPARTMENT/PROCESS

Skid-tube ☐ Crosstube ☐ Water Jet ☐ Engineering ☐
Machining ☐ Small Fab ☐ Prod. Eng. Coor. ☐ Quality ☐
Thermoforming ☐ Finishing ☐ Rec/Store/Packaging ☐ Other ☐
Large Fab ☐ Composite ☐ Supplier ☐

Root Cause		Date	Step	Qty	Description of work order update or non-conformance	Initial Chief Eng	Action Description	Sign & Date	Verification	QC Inspector
Design	☐									
Doc/Data	☐									
Equip/Tooling	☐									
Handling/Pre	☐									
Material	☐									
Operator	☐									
Offset/Setup	☐									
Process	☐									
Supplier	☐									
Training	☐									
Transport	☐									
Unapproved	☐									

FAULT CATEGORY

Landing Gear

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☐ Heat Treat
☐ Inspection Strip in Tube
☐ Marks/Chatter
☐ Turning Sequence
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General

☐ Bend
☐ BOM/Route
☐ Broken/Damage/Defect
☐ Burrs
☐ Contamination
☐ Countersink
☐ Cut Too Short
☐ Drawing
☐ Drill Holes
☐ Finish
☐ Fit/Function

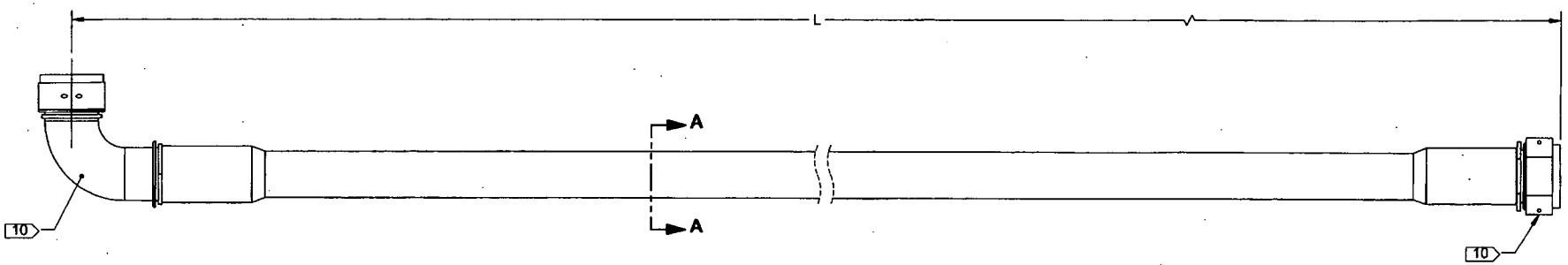
☐ Folio/Program
☐ Grain
☐ Hardware
☐ Inspection Incomplete/Unqualified
☐ Instructions Incomplete/Unclear
☐ Misaligned/off center
☐ Mislabeled
☐ Misread
☐ Off-set
☐ Out of Calibration
☐ Out of Sequence

☐ Outside Dimensions
☐ Over/Under tolerance
☐ Part Incorrect
☐ Part Lost/Missing
☐ Part Moved
☐ Positioned Wrong
☐ Power Loss/Surge

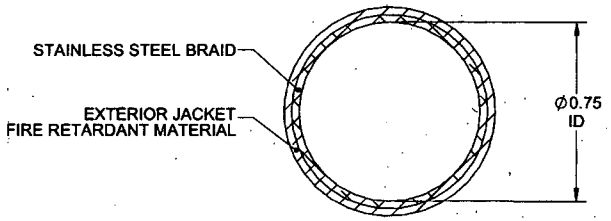
☐ Pressure/Forced
☐ Set-up
☐ Temperature/Cure
☐ Weld
☐ Wrong Stock Pulled

☐ Other

SPECIFICATION CONTROL DRAWING



D4943-XX FLEX HOSE



SECTION A-A
TUBE BUILD-UP

DART P/N	L	VENDOR	VENDOR P/N	WEIGHT	
D4943-1	40.00	AERO-FLEX	12EAS12S-03900F	1.3 lbs	B

CL 14/05/21
W10: 119749

RELEASED
2014 -05- 21

NOTES:
1) MATERIAL: BRAID: STAINLESS STEEL PER MANUFACTURER
JACKET: FIRE RETARDENT MATERIAL PER MANUFACTURER
END FITTING: STAINLESS STEEL PER MANUFACTURER
2) FINISH: N/A
3) TOLERANCES: N/A
4) UNITS: INCHES UNLESS OTHERWISE NOTED
5) BREAK SHARP EDGES: N/A
6) IDENTIFICATION: PER QSI 044 6.1.
7) WEIGHT: SEE TABLE
8) MAXIMUM OPERATING TEMPERATURE 500°F
9) MAXIMUM OPERATING PRESSURE 120 PSI
10) END FITTING REQUIREMENTS: FEMALE, 3/4, 37° JIC FITTING (THREAD 1-1/16 UN), WITH LOCKWIRE HOLES

REV.	DESCRIPTION	BY	DATE
B	SEE CHART: VENDOR WAS SWAGELOK, VENDOR P/N WAS SS-FJ12TA12AS12-40F. REASON: VENDOR CHANGED FOR LEADTIME ISSUES.	AJS	14.03.14
A	NEW ISSUE	AJS	13.09.18

APPROVED

DESIGN	AS
DRAWN	AJS
CHECKED	AP
MFG. APPR.	JLM
APPROVED	MP
DE APPR.	DS
DATE	14.03.14

DART AEROSPACE LTD
HAWKESBURY, ONTARIO, CANADA

DRAWING NO. D4943 REV. B
SHEET 1 OF 1
TITLE FLEX HOSE
SCALE NTS

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Dart Aerospace Ltd.
1270 Aberdeen Street
Hawkesbury, ON K6A 1K7
Tel: 613 632 9577
Fax: 613 632 1053

PURCHASE ORDER

Purchase Order ID PO23323

Purchase Order Date 3/12/2014
PO Print Date 5/21/2014

Order From : VU-AFL001

AERO-FLEX CORP
3147 JUPITER PARK CIR
JUPITER, FLORIDA 33458
USA

Ship To : DART AEROSPACE LTD

1270 ABERDEEN
HAWKESBURY, ON K6A 1K7
CANADA

Contact Name		**Buyer**	
Vendor Phone	561-745-2534	**Customer POID**	
		Customer Tax #	10127-2607
Ship To Contact		**Terms**	Net 30
Ship To Phone		**Currency**	USD
Ship Via:	FedEx Priority First collect	**FOB**	FCA – (Free Carrier)
Ship Acct:			

Line Nbr	Reference / Vendor Part Number / Line Comments / Delivery Comments	Description/ Mfg ID	Req Date/ Taxable / Promise Date	CD	Req Qty/ Unit of Measure	PO Unit Price	Extended Price
1	12EAS1S2-03900F Manufactuer as per drawing D4943 rev.B B119749 Manufacture P/N 12EAS1S2-03900F	FLEX HOSE	5/27/2014 Yes 5/27/2014	FN	5.00 Each	$499.00	$2,495.00
					Line Total:		**$2,495.00**
3	12EAS1S2-03900F Manufactuer as per drawing D4943 rev.B B119750 Manufacture P/N 12EAS1S2-03900F	FLEX HOSE	6/12/2014 Yes 6/12/2014	FN	8.00 Each	$499.00	$3,992.00
					Line Total:		**$3,992.00**

Note:

Aero-Flex Corp.
3147 Jupiter Park Circle
Suite 2
Jupiter, FL 33458
Phone# 561-745-2534 Fax# 561-745-2537
www.aero-flex.aero

Satisfied? Did you get Hosed?
Please complete Aero-Flex's
Satisfaction Survey located at
www.Aero-Flex.aero

Packing Slip

Certificate of Conformance

Date	Invoice #
5/21/2014	2100

Bill To	Ship To
Dart Aerospace Ltd 1270 Aberdeen Street Hawkesbury, ON K6A 1K7	

AF S.O. #	Customer P.O. #	Ship Date	Via	FOB	Project
PO23323	PO23323	5/21/2014	Federal Express		PO23323

Quantity	Item	Part Number/Rev	Description
5	1	12EAS1S2-03900F	EAPS Flex Hose With/90 degree Connection, drawing D4943-1 Rev B
1		Expediting Fee	Expediting Fee
1		FPI	Flora Penitrant

We hereby certify the above parts, including all materials, have been manufactured, tested and packed in conformance with all requirements of your order and the applicable government specifications and standards. Records of tests, inspections and certification indicating the above conformance are on file at Aero-Flex Corp. availabe for examination. It is hereby certified that any parts identified with TSO identification (a) were produced under Federal Aviation Administration (FAA) approved manufacturing and quality control system/methods as set forth in the FAA issued Technical Standard Order authorizations (TSO), and (b) such parts and/or materials are new and are in condition for safe operation. If applicable, satisfactory compliance with the conditions and tests required for TSO approval indicates the hose assembly has met the minimum performance standards in this TSO.

It is the responsibility of those desiring to install this hose assembly on an aircraft or engine to determine that the installation will not cause the hose assembly to be subjected to conditions in excess of those for which it has been approved. The hose assembly may only be installed in a manner acceptable to, or approved by, the Administrator.

The above commodities are subject to the Export Administration Regulations (EAR) and/or International Traffic in Arms Regulations (ITAR). If applicable, it is your responsibility to obtain a validated export license for this material from the Department of Commerce or the Department of State if so required under the applicable U.S. Govt. Export Control Regulation. The above material shall not be shipped to any country that has an embargo placed on it by the U.S. Govt or any entity on the U.S. Debarred list. By accepting the items on this PackSlip/C of C/Invoice you agree to Aero-Flex Corp's Terms and Conditions of Sale. These commodities, technology or software were exported from the United States in accordance with Export Administration Regulations. Diversion contrary to U.S. law is prohibited. These items may not be used directly or indirectly in prohibited nuclear, chemical, biological, or missile weapon activities.

Michael E. Scott
Michael E. Scott
Quality Manager

Form 4QF015-01
REV B

Aero-Flex Corporation
3147 Jupiter Park Circle, Ste. 2
Jupiter, Florida 33458
Ph 561.745.2534 Fax 561.745.2537

WELD VISUAL EXAMINATION REPORT

☑ Aerospace ☐ Ground Support

CUSTOMER P.O. NO.	AF INVENTORY	A-F ROUTER NO. STK3443	REPORT PAGES 1 of 1
PART DESCRIPTION	12EAS1S2-03900F	DRAWING NO/REV	12EAS1S2-03900F

ITEM	☑ Weld	☐ Castings	☑ Tube	☑ Machined Parts	Other N/A
	☑ Non-Weld	☐ Castings	☑ Tube	☑ Machined Parts	Other N/A

MATERIAL	Size ¾"	No. of pieces 1 ASSY	Type of Base Metal Cres	Type of Filler Metal Cres	☑ WELD As Welded ☐ Smooth
LOCATION	Location Aero-Flex Corporation			System D4943-1	
Acceptance Standards	AWS D17.1 CLASS B			Procedure Aero-Flex 2QP023 Rev -	
TYPE OF CHECK	☑ Initial	☑ In Process	☐ Rework	☐ 24 Hr.	☐ 7 Day ☑ Final

DISCONTINUITY	WELD ACCEPTED	✓	✓
	WELD REJECTED		
	ACCEPTANCE STANDARDS	WELD 01	WELD 02
The following Indications are acceptable			
Cracks	None		
Overlap (Cold Lap)	None		
Incomplete Fusion	None		
Incomplete Penetration (Groove Welds Only)	None	Not Applicable	Not Applicable
Porosity - Surface	Refer to AWS D17.1 Table 7.1		
Porosity – Subsurface	Refer to AWS D17.1 Table 7.1	Not Detectable	Not Detectable
Inclusions	Refer to AWS D17.1 Table 7.1	Not Detectable	Not Detectable
Undercut	Refer to AWS D17.1 Table 7.1		
Underfill and/or Concavity	Refer to AWS D17.1 Table 7.1		
Craters	Refer to AWS D17.1 Table 7.1		
Weld Profiles	Refer to AWS D17.1 Table 7.1		
Ark Strikes/Gouge Marks	Unacceptable		
Fillet Weld Size	Refer to AWS D17.1 Table 7.1		
Melt-Through	Refer to AWS D17.1 Table 7.1		Not Detectable
Weld Reinforcement	No stated requirement	Not Applicable	Not Applicable
Discoloration	All oxidation colors – Acceptable		
Other			

Remarks **Acceptance Standards in accordance with AWS D17.1:2012 CL B**

Reference DART Drawing Rev - for Weld Location Details

INSPECTOR

Michael Neimark MN

Michael C Neimark
CWI 13060361
QC1 EXP. 6/1/2016

DATE 05/21/2014

NOTICE: THIS EXAMINATION REPORT IS A REPORT OF THE RESULTS OF THE TEST PROCEDURES ACTUALLY PERFORMED BY THIS COMPANY. IT IS SUBJECT TO THE LIMITATIONS OF THE TESTING SPECIFICATIONS AND PROCEDURES WHICH WERE UTILIZED. BY FURNISHING THIS REPORT, AERO-FLEX CORPORATION DOES NOT GUARANTEE ANY CONDITION OF THE TESTED SPECIMEN.

CERTIFICATE OF INSPECTION

QC Laboratories, Inc

HOME OFFICE
2870 Stirling Road • Hollywood. Fl 33020-1199
Ph 954 925-0499 • Miami 305 949-3166 • Fax 954 925-5851

	MAGNETIC PARTICLE
	ULTRASONIC
X	PENETRANT
	X-RAY
	EDDY CURRENT
	WELDING

DATE	05-20-14
COMPANY NAME	Aero-Flex Corp.
ADDRESS	3147 Jupiter Park Circle
	Jupiter, FL 33458

MM
5/21/14

PARTS LISTED BELOW APPLY ON YOUR P.O.	140520MS	QCL INV. No.	A139914	IDENTIFIED BY	CE	JOB No.	14E-1103

QUANTITY	PART NUMBER	DESCRIPTION	PART ACCEPTED	PARTS REJECTED
1	N/A	AF Router Stk3443/Dwg 12EAS1S2-03900F	1	0
		2 welds 0.75" dia (W1,W2)		
4	N/A	AF Router Stk3444/Dwg 12EAS1S2-03900F	4	0
		8 welds 0.75" dia (W1,W2)		

THE ABOVE LISTED PARTS HAVE BEEN INSPECTED AS PER: ***FPI per ASTM E1417/E1417M-13 Type I, Method A, Sensitivity Level 3, Form A. Accept per AWS D17.1 Class B.***

Q.C. Laboratories,Inc. Maximum Liability for loss(es) of any kind due to interpretation, is invoice charges

Q.C. LABORATORIES, INC
CERTIFICATE FAA REPAIR STATION #CD4R098M

Inspector

Cornelius Eafford Level II

FORM 200 REV 04/10

Aero-Flex Corporation
3147 Jupiter Park Circle, Ste. 2
Jupiter, Florida 33458
Ph 561.745.2534 Fax 561.745.2537

PRESSURE TESTING / HELIUM MASS SPEC EXAMINATION REPORT

☐ Aerospace ☑ Ground Support

TO: Aero-Flex Corporation	FROM: Jason Farris	DATE: 05/02/2014
PROJECT — AF Dwg: 12EAS1S2-03900F	Dwg Rev: -	Part: 12EAS1S2-03900F Part Rev: -
PURCHASE ORDER NO.: AF INVENTORY Line 1	AF ROUTER NO.: STK3443	

ITEM	☑ Weld	☐ Castings	☑ Pipe	☐ Machined Parts	Other: Hose	
	☑ Non-Weld	☐ Castings	☑ Pipe	☐ Machined Parts	Other: Hose	
MATERIAL	Size: 3/4"	No. of pieces: 1	Type of Base Metal: AUSS	Type of Filler Metal: P8	WELD: ☑ As Welded ☐ Smooth	
LOCATION	Location: Aero-Flex Corporation		System: PT-001			
AcceptanceStandard: CUSTOMER			Procedure: AF 2QP024			

TYPE OF CHECK: ☑ Initial ☐ In Process ☐ Rework ☐ 24 Hr ☐ 7 Day ☑ Final

TYPE OF INSPECTION METHOD: ☑ Hydrostatic ☐ Pneumatic ☐ Bubble Test ☐ HMST-Pressurized Components ☐ HMST-Evacuated Components

Test Pressure/Vacuum: 180	Test Temperature: 75°F Ambient		HMST Test Instrument: N/A	
Test Medium/Concentration: Potable Tap Water	Bubble Solution: N/A		HMST Standard Leak: N/A	
Gage Mfr.: McDaniel	Model: FIP-GF	Range: 0-3000 PSIG	ID Number: AFCG301	Tracer Gas/Concentration: N/A
Soak Time/Test Holding Time: 10 Minutes Minimum			HMST Sensitivity Acceptance: N/A	

Reference Summary ☐ See Attachment

CUTOMER DRAWING

Results of Inspection

Satisfactory/Pass
No Leaks were Detected.

CopyTo: AF File

Requested By: PO Contract

☐ Customer Specifications ☑ Accept ☐ Reject

Reported By: Jason Farris

Quality Designee: Mike Neimark

NOTICE: THIS EXAMINATION REPORT IS A REPORT OF THE RESULTS OF THE TEST PROCEDURES ACTUALLY PERFORMED BY THIS COMPANY. IT IS SUBJECT TO THE LIMITATIONS OF THE TESTING SPECIFICATIONS AND PROCEDURES WHICH WERE UTILIZED. BY FURNISHING THIS REPORT, AERO-FLEX CORPORATION DOES NOT GUARANTEE ANY CONDITION OF THE TESTED SPECIMEN.

SAE AS9102 Revision A

Form 1: Part Number Accountability

1. Part Number	2. Part Name	3. Serial Number	4. FAI Report Number
12EAS1S2-03900F	Flex Hose	S/N 001	**520**
5. Part Revision Level	6. Drawing Number	7. Drawing Revision Level	8. Additional Changes
-	D4943	B	NONE
9. Manufacturing Process Reference SPO23323-1	10. Organization Name Aero-Flex Corporation Jupiter, Florida	11. Supplier Code 5DA84	12. P.O. Number DART PO23323

13. Details FAI ☑	14. Full FAI ☑	Baseline Part Number including revision level
Assembly FAI ☐	Partial FAI ☐	
	Reason for Partial FAI: Not Applicable	

a) if above part number is a details part only, go to Field 19.
b) if above part number is an assembly, go to the "INDEX" section below.

INDEX of part numbers or sub-assembly numbers required to make the assembly noted above.

15. Part Number	16. Part Name	17. Part Serial Number	18. FAI Report Number
NA			

1) Signature indicates that all characteristics are accounted for; meet drawing requirements or are properly documented for disposition.

2) Also indicate if the FAI is complete per Section 5.4: ☑ FAI Complete ☐ FAI not Complete

19. Signature Michael Neimark Quality Inspector	20. Date 21-May-2014
21. Reviewed By	22. Date
23. Customer Approval	24. Date

SAE AS9102 Revision A

Form 2:
Product Accountability – Raw Material, Specifications and Special Process(es) Functional Testin

1. Part Number	2. Part Name		3. Serial Number		4. FAI Report Number
12EAS1S2-03900F	Flex Hose		S/N 001		520
5. Material or Process Name	**6. Specification Number**	**7. Code**	**8. Special Process Supplier Code**	**9. Customer Approval Verification (Yes/No/NA)**	**10. Certificate of Conformance Number**
PENFLEX 3/4" 721-012 T321 SERIES 700 HOSE(UNBRAIDED)	ASTM A 240	NA	NA	NA	140501A
PENFLEX 3/4" 1SB316-012 T316 STANDARD BRAID FOR SERIES 700 HOSE	ASTM A580	NA	NA	NA	140501B
ADAPTOR, STRAIGHT, 3/4" BW END X-12 FEMALE JIC SWIVEL, 37° FLARED W/ 2 LOCK WIRE HOLES	A/SA 182 F316	NA	NA	NA	140429C
ADAPTOR, ELBOW, 3/4" BW END X-12 FEMALE JIC SWIVEL, 37° FLARED W/ 2 LOCK WIRE HOLES	A/SA 182 F316	NA	NA	NA	140429B
FIRE SLEEVE -20	MANUFACTURER COC	NA	NA	NA	140519D

11. Functional Test Procedure Number	12. Acceptance report number, if applicable
AF 2QP024	AF ROUTER STK3443 4QF023-01 DATED 05/02/2014
AF 2QP025	AF ROUTER STK3443 4QF024-01 DATED 05/21/2014
FPI-ASTM-E1417 Type I Meth D Level 3/AWS D17.1 CL B	QC LABS 14E-1103 DATED 05/20/2014

13. Comments NONE

14. Prepared By	15. Date
Michael Neimark MN	21-May-2014

SAE AS9102 Revision A

Form 3: Characteristic Accountability, Verification and Compatibility Evaluation

1. Part Number	2. Part Name	3. Serial Number	4. FAI Report Number
12EAS1S2-03900F	Flex Hose	S/N 001	**520**

Characteristic Accountability				Inspection / Test Results			
5. Char No.	6. Reference Location	7. Characteristic Designator	8. Requirement	9. Results	10. Designed Tooling	11. Non-Conformance Number	14. (insert columns, etc., as required by Organization or Customer)
1	4B	NA	40"(± 1/16")	40"	RULE	NA	

The Signature indicates that all characterististics are accounted for; meet drawing requirements or are properly documented for disposition.

12. Prepared By: Michael Neimark

13. Date: 21-May-2014

ULBRICH of ILLINOIS, INC.

We Deliver Precision™

12340 S. LARAMIE AVENUE
ALSIP, ILLINOIS 60803
PHONE (708) 489-9500
1-800-323-7035
FAX (708) 371-1802
www.ulbrich.com

11/26/13
Shipment #: 220490

CERTIFICATION

140501A

PENFLEX CORP
105B INDUSTRIAL DR
GILBERTSVILLE, PA
19525

PENFLEX CORP
105B INDUSTRIAL DR
GILBERTSVILLE, PA
19525

ORDER#	ORD DATE	CUST#	LOC	SLSREP	P.O. NUMBER	SHIP VIA	COL/PPD
748010	11/18/13	P69830	2	44 / JAF	P17908	NEW PENN	COLLECT

ORDERED WEIGHT
2500

ITEM / DESCRIPTION
CUSTOMER PART #: CHS-721-012-NF
321 ANN .015 X 3.414 X COIL
321 ANNEALED
321 ANNEALED
ORDERED GAUGE: .01500
STD GAUGE TOLERANCE +/-: .0010
ORDERED WIDTH: 3.41400
STD WIDTH TOLERANCE +/-: .0050

CONFORMS TO SPECIFICATION
ASTM A 240/A240M-08
MS-CHS-S-001 REV 16
MERCURY FREE

NO WELDS OR SPLICES

CHEMICAL & PHYSICAL ANALYSIS:

HEAT#	SUFFIX	MILL SOURCE	CERTIFICATION DATE	WEIGHT CERTIFIED
23433A	- 001	ULBRICH	11/26/13	2,586

CARBON	MANGANESE	SILICON	PHOSPHORUS	SULFUR	CHROMIUM
.0390	1.2700	.4200	.0290	.0000	17.1000

NICKEL	MOLYBDENUM	COPPER	NITROGEN	TITANIUM
9.0700	.1500	.2400	.0140	.3500

TENSILE	YIELD	ELONGATION%	SCALE	ROCKWELL
87,821	40,828	62	15T	B68

GRAIN SIZE	HARDENABILITY	BEND TEST	EMBRITTLEMENT
7.0		Y	

RA 6.5 - 6.8

COUNTRY OF ORIGIN SWEDEN

*** Continued On The Next Page ***

ULBRICH of ILLINOIS, INC.

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PENFLEX CORP
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19525

PENFLEX CORP
105B INDUSTRIAL DR
GILBERTSVILLE, PA
19525

ORDER#	ORD DATE	CUST#	LOC	SLSREP	P.O. NUMBER	SHIP VIA	COL/PPD
748010	11/18/13	P69830	2	44 / JAF	P17908	NEW PENN	COLLECT

CHEMICAL & PHYSICAL ANALYSIS:

HEAT#	SUFFIX	MILL SOURCE	CERTIFICATION DATE	WEIGHT CERTIFIED
23433A	- 001	ULBRICH	11/26/13	2,596

SWORN AND SUBSCRIBED TO BEFORE ME
THIS DAY OF

ULBRICH OF ILLINOIS, INC.

M. HAEHNLEIN
BY _____

NOTARY PUBLIC

TREFILADOS INOXIDABLES DE MÉXICO, S.A. DE C.V.
AVE. OTOMIES S/N
CD. IND. XICOHTENCATL II C.P. 90300
HUAMANTLA, TLAX., MÉXICO
TELS. (52) 247 47 23150; 247 47 25400; FAX 247 47 23160

CERTIFICATE OF CONFORMANCE
3.1 (EN 10204:2004)
No.: 21004

140501B

Sold to	COGNE SPECIALTY STEEL USA, INC N FRANKLIN RAMSEY, USA
Ship to	COGNE SPECIALTY STEEL USA, INC / MADISON WAREHOUSE CORP. 1695 CROSSROADS DRIVE JOLIET, IL. USA

Customer No.	C115	**Date Shipped**	16/02/11
Order No.	2539	**Order Date**	16/02/11
Customer P.O.	SCHEDULE	**Invoice**	FE0365

ITEM DESCRIPTION

M00111	316L / 0.014" / Soft Stainless steel wire, Annealed, Bright on 50 lbs Metal spool. PENFLEX P/N BW-SB-316-014	**Quantity** 1724 LB	
		Lot Number L0049699	**Heat No.** 258352

CHEMICAL ANALYSIS

Element	C	SI	P	S	CR	MN	NI	CU	MO
	%	%	%	%	%	%	%	%	%
Content	0.0140	0.6200	0.0300	0.0020	17.1900	1.4400	10.0800	0.1800	2.0400

MECHANICAL PROPERTIES

Property	ELONGATION (AL)	DIAMETER	TENSILE (RM)	YIELD (RP02)
Value	51.91	0.0140	105.600	44.529
	%	In	Ksi	Ksi

NOTES

316L PER ASTM A580
COUNTRY OF MELT: Switzerland - MEET DFARS
FREE FROM MERCURY CONTAMINATION
P.O.: ID P14120

I certify the chemical analysis and physical and mechanical test result reported above are correct as contained in the records of the company

Prepared/QC Department

Authorized signature/QC Department
F - PECC02 - 04

SSP
Stainless Steel Products
fittings - valves - tubing

8250 Boyle Parkway
Twinsburg, Ohio 44807
Phone: 330.425.4250
www.sspfittings.com

140429 B

Fittings

MATERIAL TEST REPORT (MTR) for 316 SS PRODUCT SHIPPED:
CERTIFICATE OF CONFORMANCE TO EN10204 & DIN50049, Type 3.1

Customer (Sold To)
AERO-FLEX
3147 JUPITER PARK CR STE#2
JUPITER., FL 33458

Customer P.O. 140242EH2
SSP Order No. 2405862

Product Category
Fittings

Item	Quantity	Part Number	Heat Code(s)					
1	5	3/4BHJSE12	TN	ITK	IJZ			

SSP hereby certifies that all materials used in the manufacture of parts supplied conform to the material and/ or manufacturing specifications cited on the purchase order, catalogs and Certificate of Conformance.

This certification does not include hardware items included in the Part Number listed above including springs, o-rings, gaskets, snap rings, balls, jam or lock nuts, handles or lanyards.

All products are cleaned and packaged in accordance with SSP specifications.

In accordance with the provisions of **Directive 2002 / 95 / EC-RoHS**, all SSP products and packaging is in conformance with the requirements of this directive, and contain zero levels of the following restricted hazardous substances: Lead (Pb), Mercury (Hg), Hexavalent Chromium [Cr(VI)], Cadmium (Cd), Polybromated flame retardants [Biphenyl (PBB) or dephenyl ether (PBDE)], or Perfluorooctane sulfonate compounds (PFOS). No mercury was used in directly-connected manometers, seals, pumps, or glass thermometers, nor has mercury been handled in the immediate vicinity, during any stage of production or testing.

Typical mechanical and chemical analysis of the material used in the manufacture of SSP products are listed below. These values are average values confirmed by examination of certified material test reports and authenticated through non-destructive x-ray fluorescence inspection.

MATERIAL STANDARD

COMPONENT	MATERIAL	STANDARDS
Forged	316 SS	316 SS, UNS S31600, ASTM A-182, ASME SA-182
Bar stock	316 SS	316 SS, UNS S31600, ASTM A-276, ASME SA-276, A-479, ASME SA-479

MECHANICAL PROPERTIES

COMPONENT	YIELD STR. (ksi / MPa)	TENSILE STR. (ksi / MPa)	ELONG. (%)	RED. AREA (%)	HARDNESS HRB	HARDNESS HB
Forged	39.9 / 275	85.8 / 592	57.1	75	82	169
Bar stock	91.5 / 631	103 / 710	45.6	71.8		211

CHEMICAL ANALYSIS

COMPONENT										
	C	Cr	Mn	Mo	N	Ni	P	S	Si	Co
Forged	0.04	17	1.6	2.1	0.06	10.1	0.03	0.03	0.56	0.09
	C	Cr	Mn	Mo	N	Ni	P	S	Si	Co
Bar stock	0.02	16.7	1.5	2.1	0.05	10.3	0.04	0.03	0.52	0.06

NOTE: Austenitic stainless steel material has passed the Intergranular Corrosion Test requirements of ASTM a262, Practice A.

Quality Assurance

Engineering

E-014 Standard MTR Certificate

Current Rev: E

CERTIFIED QUALITY MANAGEMENT SYSTEM ISO 9001:2008 DNV

SSP 8250 Boyle Parkway Twinsburg, Ohio 44087 U.S.A. www.mysspusa.com 1.330.425.4250

140429C

MATERIAL TEST REPORT (MTR) for 316 SS PRODUCT SHIPPED: Fittings

CERTIFICATE OF CONFORMANCE TO EN10204 & DIN50049, Type 3.1

Customer (Sold To)

AERO-FLEX CORPORATION
3147 JUPITER PARK CIRCLE
SUITE 2
JUPITER, FL 33458

Customer P.O. 13040MD
SSP Order No. 2304888

Product Category

130417B

Item	Quantity	Part Number	Heat Code(s)
2	20	3/4BHJS12	JHV

SSP hereby certifies that all materials used in the manufacture of parts supplied conform to the material and/ or manufacturing specifications cited on the purchase order, catalogs and Certificate of Conformance.

This certification does not include hardware items included in the Part Number listed above including springs, o-rings, gaskets, snap rings, balls, jam or lock nuts, handles or lanyards.

All products are cleaned and packaged in accordance with SSP specifications.

In accordance with the provisions of **Directive 2002 / 95 / EC-RoHS**, all SSP products and packaging is in conformance with the requirements of this directive, and contain zero levels of the following restricted hazardous substances: Lead (Pb), Mercury (Hg), Hexavalent Chromium [Cr(VI)], Cadmium (Cd), Polybromated flame retardants [Biphenyl (PBB) or dephenyl ether (PBDE)], or Perfluorooctane sulfonate compounds (PFOS). No mercury was used in directly-connected manometers, seals, pumps, or glass thermometers, nor has mercury been handled in the immediate vicinity, during any stage of production or testing.

Typical mechanical and chemical analysis of the material used in the manufacture of SSP products are listed below. These values are average values confirmed by examination of certified material test reports and authenticated through non-destructive x-ray fluorescence inspection.

MATERIAL STANDARD

COMPONENT	MATERIAL	STANDARDS
Forged	316 SS	316 SS, UNS S31600, ASTM A-182, ASME SA-182
Bar stock	316 SS	316 SS, UNS S31600, ASTM A-276, ASME SA-276, A-479, ASME SA-479

MECHANICAL PROPERTIES

COMPONENT	YIELD STR. (ksi / MPa)	TENSILE STR. (ksi / MPa)	ELONG. (%)	RED. AREA (%)	HARDNESS HRB	HARDNESS HB
Forged	39.9 / 275	85.8 / 592	57.1	75	82	169
Bar stock	91.5 / 631	103 / 710	45.6	71.8		211

CHEMICAL ANALYSIS

COMPONENT	C	Cr	Mn	Mo	N	Ni	P	S	Si	Co
Forged	0.04	17	1.6	2.1	0.06	10.1	0.03	0.03	0.56	0.09
	C	Cr	Mn	Mo	N	Ni	P	S	Si	Co
Bar stock	0.02	16.7	1.5	2.1	0.05	10.3	0.04	0.03	0.52	0.06

NOTE: Austenitic stainless steel material has passed the Intergranular Corrosion Test requirements of ASTM a262, Practice A.

Quality Assurance

Engineering

E-014 Standard MTR Certificate

Current Rev: F

DAVLYN

140519 D

May 16, 2014

Eric Hobart
Aero-Flex Corp.
3147 Jupiter Park Drive
Suite 2
Jupiter, FL 33458

Dear Eric:

In accordance with your request, we confirm that our Silco Sleeve Braided products (including the one you recently purchased from us on your PO 1405015EH) complies with the AS1072 build requirements with the single exception of the lack of any AS1072 identification printing on the outside of the sleeve.

We thank you and appreciate your business.

Very truly yours,

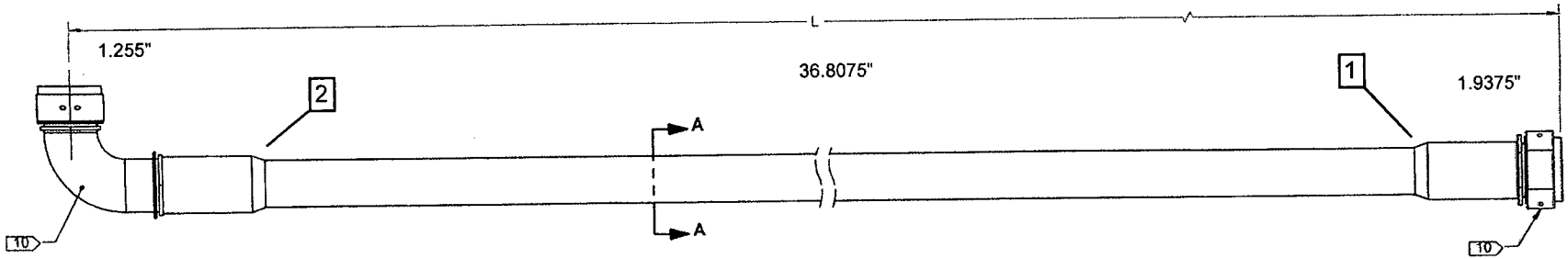
Davlyn Manufacturing Co., Inc

Joel Lukoff
President

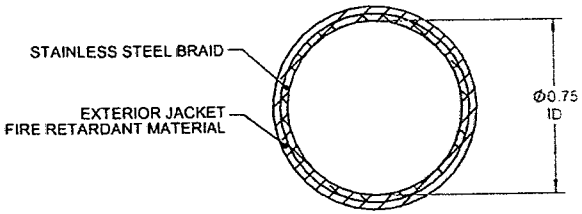
SPECIFICATION CONTROL DRAWING

AF Router Drawing

Weld Joint Designation



D4943-XX FLEX HOSE



SECTION A-A
TUBE BUILD-UP

DART P/N	L	VENDOR	VENDOR P/N	WEIGHT
D4943-1	40.00	AERO-FLEX	~~12EAS12S-03900F~~	1.3 lbs
			12EAS1S2-03900F	

B

NOTES:
1) MATERIAL: BRAID: STAINLESS STEEL PER MANUFACTURER
JACKET: FIRE RETARDENT MATERIAL PER MANUFACTURER
END FITTING: STAINLESS STEEL PER MANUFACTURER
2) FINISH: N/A
3) TOLERANCES: N/A
4) UNITS: INCHES UNLESS OTHERWISE NOTED
5) BREAK SHARP EDGES: N/A
6) IDENTIFICATION: PER QSI 044 6.1.
7) WEIGHT: SEE TABLE
8) MAXIMUM OPERATING TEMPERATURE 500°F
9) MAXIMUM OPERATING PRESSURE 120 PSI
10) END FITTING REQUIREMENTS: FEMALE, 3/4, 37° JIC FITTING (THREAD 1-1/16 UN), WITH LOCKWIRE HOLES

REV.	DESCRIPTION	BY	DATE
B	SEE CHART: VENDOR WAS SWAGELOK, VENDOR P/N WAS SS-FJ12TA12AS12-40F. REASON: VENDOR CHANGED FOR LEADTIME ISSUES.	AJS	14.03.14
A	NEW ISSUE	AJS	13.09.18

APPROVED

DESIGN	AS	DART AEROSPACE LTD
DRAWN	AJS	HAWKESBURY, ONTARIO, CANADA
CHECKED	AP	DRAWING NO. D4943 REV. B
MFG. APPR.	JLM	SHEET 1 OF 1
APPROVED	MP	TITLE FLEX HOSE SCALE NTS
DE APPR.	DS	
DATE	14.03.14	

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CERTIFICATE OF INSPECTION

QC Laboratories, Inc

HOME OFFICE
2870 Stirling Road • Hollywood, Fl 33020-1199
Ph 954 925-0499 • Miami 305 949-3166 • Fax 954 925-5851

	MAGNETIC PARTICLE
	ULTRASONIC
X	PENETRANT
	X-RAY
	EDDY CURRENT
	WELDING

DATE	05-20-14
COMPANY NAME	Aero-Flex Corp.
ADDRESS	3147 Jupiter Park Circle
	Jupiter, FL 33458

MN
5/21/14

PARTS LISTED BELOW APPLY ON YOUR P.O.	140520MS	QCL INV. No.	A139914	IDENTIFIED BY	CE	JOB No.	14E-1103

QUANTITY	PART NUMBER	DESCRIPTION	PART ACCEPTED	PARTS REJECTED
1	N/A	AF Router Stk3443/Dwg 12EAS1S2-03900F	1	0
		2 welds 0.75" dia (W1,W2)		
4	N/A	AF Router Stk3444/Dwg 12EAS1S2-03900F	4	0
		8 welds 0.75" dia (W1,W2)		

THE ABOVE LISTED PARTS HAVE BEEN INSPECTED AS PER:	***FPI per ASTM E1417/E1417M-13 Type I, Method A, Sensitivity Level 3, Form A. Accept per AWS D17.1 Class B.***

Q.C. Laboratories,Inc. Maximum Liability for loss(es) of any kind due to interpretation, is invoice charges

Q.C. LABORATORIES, INC
CERTIFICATE FAA REPAIR STATION #CD4R098M

Inspector

Cornelius Eafford Level II

FORM 200 REV 04/10

AERO-FLEX
EST - 2008

PRESSURE TESTING / HELIUM MASS SPEC EXAMINATION REPORT

☐ Aerospace ☑ Ground Support

TO: Aero-Flex Corporation	FROM: Jason Farris	DATE: 05/13/2014

PROJECT — **AF Dwg:** 12EAS1S2-03900F **Dwg Rev:** - **Part:** 12EAS1S2-03900F **Part Rev:** -

PURCHASE ORDER NO.: AF INVENTORY **Line** 1	AF ROUTER NO.: STK3444

ITEM

☑ Weld	☐ Castings	☑ Pipe	☐ Machined Parts	Other: Hose
☑ Non-Weld	☐ Castings	☑ Pipe	☐ Machined Parts	Other: Hose

MATERIAL	Size	No. of pieces	Type of Base Metal	Type of Filler Metal	WELD
	3/4"	4	AUSS	P8	☑ As Welded ☐ Smooth

LOCATION	Location: Aero-Flex Corporation	System: PT-001
AcceptanceStandard: CUSTOMER	Procedure: AF 2QP024	

TYPE OF CHECK: ☑ Initial ☐ In Process ☐ Rework ☐ 24 Hr ☐ 7 Day ☑ Final

TYPE OF INSPECTION METHOD

☑ Hydrostatic ☐ Pneumatic ☐ Bubble Test ☐ HMST-Pressurized Components ☐ HMST-Evacuated Components

Test Pressure/Vacuum: 180	Test Temperature: 75°F Ambient		HMST Test Instrument: N/A
Test Medium/Concentration: Potable Tap Water	Bubble Solution: N/A		HMST Standard Leak: N/A
Gage Mfr.: McDaniel / Model: FIP-GF	Range: 0-3000 PSIG	ID Number: AFCG301	Tracer Gas/Concentration: N/A
Soak Time/Test Holding Time: 10 Minutes Minimum			HMST Sensitivity Acceptance: N/A

Reference Summary	Results of Inspection
☐ See Attachment AF ROUTER	Satisfactory/Pass No Leaks were Detected.

CopyTo: AF File	Requested By: PO Contract	Reported By: Jason Farris
	☐ Customer Specifications ☑ Accept ☐ Reject	Quality Designee: Mike Neimark

NOTICE: THIS EXAMINATION REPORT IS A REPORT OF THE RESULTS OF THE TEST PROCEDURES ACTUALLY PERFORMED BY THIS COMPANY. IT IS SUBJECT TO THE LIMITATIONS OF THE TESTING SPECIFICATIONS AND PROCEDURES WHICH WERE UTILIZED. BY FURNISHING THIS REPORT, AERO-FLEX CORPORATION DOES NOT GUARANTEE ANY CONDITION OF THE TESTED SPECIMEN.